5)

$$\begin{cases} (V_i - V_A)\,g_{m1} = V_A \cdot sC_1 \\[4pt] (V_A - V_B)\,g_{m2} = V_B \cdot sC_2 \\[4pt] V_O = V_B \cdot \dfrac{G_1}{sC_3 + G_1} \end{cases}$$

$$V_A = V_i\,\frac{g_{m1}}{sC_1 + g_{m1}} \quad \Rightarrow \quad V_B = V_i \cdot \frac{g_{m1}\cdot g_{m2}}{s^2 C_1 C_2 + s(C_1 g_{m2} + C_2 g_{m1}) + g_{m1}\cdot g_{m2}}$$

$$V_O = V_i \cdot \frac{G_1}{sC_3 + G_1} \cdot \frac{g_{m1}\,g_{m2}}{s^2 C_1 C_2 + s(C_1 g_{m2} + C_2 g_{m1}) + g_{m1} g_{m2}}$$

$$\boxed{\frac{V_O}{V_i} = \frac{\dfrac{1}{C_3 R_1}}{s + \dfrac{1}{C_3 R_1}} \cdot \frac{\dfrac{g_{m1}\, g_{m2}}{C_1 C_2}}{s^2 + s\left(\dfrac{g_{m2}}{C_2} + \dfrac{g_{m1}}{C_1}\right) + \dfrac{g_{m1}\, g_{m2}}{C_1 C_2}}}$$

$$\frac{V_O}{V_i} = T(s) = \frac{W_o}{s + W_o} \cdot \frac{W_o^2}{s^2 + \dfrac{W_o}{Q}s + W_o^2} \;//$$